Seat No.

Set **P**

M.Sc. (Geoinformatics) (Semester - I) (New) (NEP CBCS) Examination: March/April - 2025
Basics of GIS and GNSS (2331101)

Day & Date: Thursday, 15-May-2025   Max. Marks: 60
Time: 03:00 PM To 05:30 PM

Instructions: 1) All questions are compulsory.
                        2) Figures to the right indicate full marks.

Q.1 A) Select the correct alternative.   **08**

1) What does a "layer" in GIS refer to?
   a) A physical map   b) A spatial dataset
   c) A 3D model   d) A GPS receiver

2) Which of the following is NOT a component of GIS?
   a) Hardware   b)   Software
   c) People   d)   Telecommunication

3) Which file format is primarily used to store vector data in GIS?
   a) .csv   b)   .shp
   c) .tiff   d)   .jpeg

4) Which of the following is commonly used GIS software?
   a) MATLAB   b)   ArcGIS
   c) AutoCAD   d)   SPSS

5) What does GPS stand for?
   a) Global Positioning System
   b) Geographic Positioning Satellite
   c) Ground Positioning Satellite
   d) Geographic Projection System

6) How many satellites make up the GPS constellation for full coverage?
   a) 18   b)   21
   c) 24   d)   30

7) What type of signal does GPS use to determine the location?
   a) Infrared   b)   Radio
   c) Microwave   d)   Ultrasonic

8) Which part of the GPS system is responsible for generating and transmitting satellite signals?
   a) Control segment   b)   User segment
   c) Space segment   d)   Ground station

B) Fill in the blank 04
1) In GIS, the _____ table contains descriptive data about geographic features.
2) _____ Data in GIS represents specific locations using points, lines, and polygons.
3) GPS can provide information about location, speed, and _____.
4) GPS technology uses _____ waves to communicate with satellites.

Q.2 Answer the following. (Any Six) 12
a) What are the sources of Spatial data?
b) Define GPS and explain Indian navigation system.
c) Explain the concept of layers in GIS
d) Explain the role of topology in GIS.
e) What are raster and vector data in GIS?
f) How does GPS work to determine a location?
g) Define GIS and explain its components

Q.3 Answer the following. (Any Three) 12
a) What is the difference between GPS and GIS?
b) Explain the process of data acquisition in GIS.
c) Explain the importance of GPS in navigation.
d) What are the advantages of using Geospatial technology?

Q.4 Answer the following. (Any Two) 12
a) What is the difference between spatial and attribute data in GIS?
b) Discuss the role of GIS in earth resource management.
c) Discuss the role of GPS in geospatial technology.

Q.5 Answer the following. (Any Two) 12
a) Discuss the applications of GPS in various sector.
b) Explain the importance of GIS in disaster management and risk analysis.
c) Explain the integration of Geography with other geospatial technologies like remote sensing.

Seat No.	

M.Sc. (Geoinformatics) (Semester - I) (New) (NEP CBCS) Examination: March/April - 2025
Principles of Remote sensing (2331102)

Day & Date: Saturday, 17-May-2025   Max. Marks: 60
Time: 03:00 PM To 05:30 PM

Instructions: 1) All questions are compulsory.
              2) Figures to the right indicate full marks.

Q.1 Choose correct alternative. (MCQ)   **08**

1) The most important source of electromagnetic energy is _____.
   a) Earth   b) Moon
   c) Atmosphere   d) Sun

2) The portion of the spectrum of more recent interest to remote sensing is the_____ region from about 1 mm to 1 m.
   a) x-ray   b) Gamma
   c) Microwave   d) Visible

3) _____ view of a terrain which is seen on a stereo pair using either a pocket lens stereoscope or a mirror stereoscope.
   a) ID   b) 2D
   c) 3D   d) none of these

4) The head quarter of ISRO of India situated in _____.
   a) Bengaluru   b) Hyderabad
   c) Dehradun   d) Jaipur

5) Mie scattering occurs when the particles are just about the same size as the wavelength of the radiation.
   a) Relay scattering   b) mie scattering
   c) non selective scattering   d) all of the above

6) The first artificial (man-made satellite) was a Soviet satellite named _____.
   a) Sputnik   b) Bhaskara
   c) Terra   d) Rohini

7) The visible wavelengths cover a range from approximately_____
   a) 0.4 to 0.7 mm   b) 0.7 to 3mm
   c) 3 to 7 mm   d) 7 to 14mm

8) Scale are sometimes represented on maps by a statement is known as _____
   a) R. F.   b) Graphical scale
   c) Simple statement   d) A & B both

B) Write true/ False.   **04**
    a) Landsat satellite series is launched by USA.
    b) Across-track scanners scan the Earth in aseries of lines.
    c) The distance from the middle of the camera lens to the focal plane is called focal length.
    d) The stereo pair should have a 60% forward lap and 20-40% side lap.

Q.2 Write short answers. (Any Six)   **12**
    a) Orbital parameters of Landsat 1.
    b) Define map Scale
    c) Types of films
    d) Define parallax
    e) Focal length
    f) Spy satellite
    g) Aerial remote sensing
    h) Absorption

Q.3 Write short notes. (Any Three)   **12**
    a) Polar orbital satellite
    b) Electromagnetic energy
    c) Specular reflection.
    d) Diffused reflection

Q.4 Answer the following. (Any Two)   **12**
    a) Explain in detail scanning methods.
    b) Explain in detail Bhaskara 1.
    c) Explain in detail image interpretation techniques.

Q.5 Answer the following. (Any Two)   **12**
    a) Types of camera.
    b) Applications of remote sensing.
    c) geostationary satellite

Seat No.

M.Sc. (Geoinformatics) (Semester - I) (New) (NEP CBCS) Examination: March/April - 2025
IT for Geo informatics (2331109)

Day & Date: Monday, 19-May-2025   Max. Marks: 60
Time: 03:00 AM To 05:30 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 A) Choose correct alternative.   08

1) CAD also known as _____.
   a) Computer Aided Design   b) Computer Assist Design
   c) Computer Aided Device   d) None of the above

2) Which is the latest version of Microsoft Windows?
   a) 10   b) 11
   c) None of the above   d) All of the above

3) What is the default sorting order in SQL?
   a) Descending   b) Random
   c) Ascending   d) Unsorted

4) What is the primary purpose of a database management system (DBMS)?
   a) To create websites
   b) To manage and organize data
   c) To analyze spatial data
   d) To develop applications

5) Which SQL statement is used to add new records to a table?
   a) ADD   b) INSERT
   c) NEW   d) UPDATE

6) The oldest DB model is _____.
   a) Relational   b) Hierarchical
   c) Network   d) All of the above

7) Which of the following unit is responsible for converting the data received from the user into a computer understandable format?
   a) Output Unit   b) Input Unit
   c) Memory Unit   d) Arithmetic & Logic Unit

8) Which of the following device use positional notation to represent a decimal number?

a) Pascaline
b) Abacus
c) Computer
d) Calculator

B) Write True/False.   **04**
1) _____ type of memory is non-volatile.
2) SQL stands for _____.
3) Each table is a collection of tuples that are similarly shaped.
   a) True   b) False
4) RAM is a type of permanent storage used to save files.
   a) True   b) False

Q.2 Answer the following. (Any Six)   **12**
a) Define first normal form (INF) and provide an example.
b) Define attribute and entity and give example.
c) What are the different types of ROM?
d) Definition an Intersection.
e) Define software.
f) Define wildlife forestry.
g) Define computer.
h) Define chat. What are the types of programming language?

Q.3 Answer the following. (Any Three)   **12**
a) Note on Operating system
b) Write in detail operations on tables.
c) Note on RDBMS.
d) Note on land Use Land Cover.

Q.4 Answer the following. (Any Two)   **12**
a) Applications of Geoinformatics in agricultural monitoring. What specific technologies are used to assess crop health and yield?
b) Define normalization data and describe. Normalization data with suitable examples.
c) Describe in detail models.

Q.5 Answer the following. (Any Two)   **12**
a) Write in detail process of SQL.
b) Geological mapping using computer applications.
c) What are the different types of computer output devices?

Seat No.

Set **P**

M.Sc. (Geoinformatics) (Semester - I) (New) (NEP CBCS) Examination: March/April - 2025
Research Methodology (2331103)

Day & Date: Saturday, 24-May-2025   Max. Marks: 60
Time: 03:00 PM To 05:30 PM

Instructions: 1) All questions are compulsory.
                          2) Figures to the right indicate full marks.

Q.1 A) Choose correct alternative.   **08**
   1) What is the first step in starting any research?
        a) Setting research goals
        b) Gathering information
        c) Deciding how to do the research
        d) Clearly identifying the problem

   2) The main purpose of a literature review is to: _____.
        a) Prove your hypothesis correct
        b) Identify gaps in existing research
        c) Collect raw data
        d) Publish findings

   3) Which feature of MS Word is especially useful for formatting research documents?
        a) Toolbar options   b) Advanced calculations
        c) Statistical analysis   d) Image editing

   4) What is an example of a widely used e-database in research?
        a) Google Docs   b) SCOPUS
        c) Notepad   d) Paint

   5) Which index measures the productivity and citation impact of an author?
        a) Impact factor   b) ISBN number
        c) h-index   d) ISSN

   6) How should research outcomes be presented?
        a) Through a research paper or patent filing
        b) By skipping results and discussions
        c) Through informal presentations
        d) Without proper formatting

7) What is the primary objective of research?
   a) Gathering data randomly
   b) Defining and solving a problem
   c) Planning experiments without objectives
   d) Presenting results before analyzing them

8) What does a literature review involve?
   a) Conducting experiments
   b) Reviewing and analyzing previous research
   c) Preparing a presentation
   d) Filing a patent

B) Fill in the blanks OR write true /false   **04**
1) 400% is the maximum zoom percentage in MS Powerpoint. (TRUE/FALSE)
2) Research objectives should be aligned with the research problem. (TRUE/FALSE)
3) In research, _____ collection is followed by record keeping to en sure data accuracy.
4) YouTube is typically used in research presentation or documentation. (TRUE/FALSE)

Q.2 Answer the following. (Any Six)   **12**
   a) Define a research problem.
   b) What are the objectives of research?
   c) Role of MS Excel in organizing research data?
   d) Differentiate between ISSN and ISBN numbers.
   e) Explain any two advantages of Microsoft Word.
   f) Explain any two advantages of power point.
   g) What is plagiarism?
   h) List some search engines commonly used in academic research.

Q.3 Answer the following. (Any Three)   **12**
   a) Explain the importance of using keywords in a search query.
   b) Give the importance of Literature review.
   c) Describe search engines in detail.
   d) Explain application of Computers in research.

Q.4 Answer the following. (Any Two)   **12**
   a) Explain Qualitative and Quantitative data collection method.
   b) Write detailed note on Impact factor.
   c) Explain the SCOPUS index and its significance in academic research.

Q.5 Answer the following. (Any Two)   **12**
   a) What are the criteria for quality research?
   b) Explain the applications of MS Word, MS Excel, and MS PowerPoint in documenting and presenting research.
   c) What is plagiarism, and why is it a concern in research?

Seat No.	

M.Sc. (Geoinformatics) (Semester - II) (New) (NEP CBCS) Examination: March/April - 2025
Digital Image Analysis (2331201)

Day & Date: Wednesday, 14-May-2025　　　　　　　　　Max. Marks: 60
Time: 11:00 AM To 01:30 PM

Instructions: 1) All questions are compulsory.
　　　　　　　　2) Figures to the right indicate full marks.

Q.1 A) Choose correct alternative. 　　　　　　　　　　　　　　08

1) Which remote sensing technology is particularly useful for monitoring soil moisture and vegetation health?
　a) LIDAR
　b) Synthetic Aperture Radar (SAR)
　c) Landsat Multispectral Imagery
　d) Optical Imagery from UAVs

2) In the context of disaster management, satellite imagery is used for:
　a) Flood mapping
　b) Forest fire detection
　c) Earthquake monitoring
　d) All of the above

3) Which of the following methods is used to determine the relationship between a remotely sensed image and real-world coordinates?
　a) Image Enhancement　　　b) Georeferencing
　c) Image Compression　　　d) Spatial Filtering

4) Which technique is used to identify objects or patterns in satellite imagery by grouping similar pixels?
　a) Image Thresholding
　b) Supervised Classification
　c) Unsupervised Classification
　d) Band Ratioing

5) Which method is most commonly used for the geometric correction of satellite images?
　a) Principal Component Analysis
　b) Image Registration
　c) Fourier Transform
　d) K-means Clustering

6) In remote sensing, which type of data is used for land surface temperature estimation?
   a) Thermal Infrared Data
   b) Visible Light Data
   c) Microwave Data
   d) Ultraviolet Data

7) Which of the following methods is used to enhance the contrast of an image?
   a) Histogram Equalization
   b) Image Thresholding
   c) Image Segmentation
   d) Edge Detection

8) Which of the following satellite sensors is primarily used for land cover classification?
   a) Landsat
   b) RADARSAT
   c) MODIS
   d) SPOT

B) Fill in the blanks   **04**
   1) In the process of image classification, the _____ technique uses labelled data to create a model that classifies pixels into predefined classes.
   2) The process of assigning specific geographical coordinates to a digital image is known as _____.
   3) The electromagnetic spectrum ranges from short wavelengths such as _____ to longer wavelengths such as _____.
   4) A satellite image's spatial resolution determines the size of the area covered by one _____ in the image.

Q.2 Answer the following. (Any Six)   **12**
   a) Explain the concept of "Change Detection" in remote sensing.
   b) What is the significance of the "Red" band in remote sensing?
   c) Explain the term "spatial resolution" in the context of satellite imagery.
   d) What is a "False Color Composite" image, and why is it used in remote sensing?
   e) Define the term "Georeferencing" in satellite image processing.
   f) What is image classification in the context of remote sensing, and why is it important?
   g) What role does "Histogram Equalization" play in satellite image processing?

Q.3 Answer the following. (Any Three).   **12**
   a) How is "Land Use/Land Cover" classification helpful in environmental monitoring?
   b) What is the significance of the "Near-Infrared" band in remote sensing?
   c) What is the role of "Radar Remote Sensing" in monitoring the Earth's surface?
   d) Explain the concept of "Supervised Classification" in satellite image processing.

Q.4 Answer the following. (Any Two) 12
   a) Describe the process of image enhancement and its importance in satellite image processing.
   b) What is the purpose of "Atmospheric Correction" in satellite image processing?
   c) Explain the process of image classification in satellite remote sensing. Differentiate between supervised and unsupervised classification methods.

Q.5 Answer the following. (Any Two) 12
   a) Describe the process of atmospheric correction in satellite imagery. Why is it necessary, and what methods are commonly used to perform atmospheric correction?
   b) Explain the concept of Remote Sensing and describe its significance in satellite-based imaging. What are the key components involved in a remote sensing system?
   c) Discuss the concept of change detection in satellite remote sensing. How does it help in monitoring land use/land cover changes over time.

Seat No.

M.Sc. (Geoinformatics) (Semester - II) (New) (NEP CBCS) Examination: March/April - 2025
Spatial Modelling & Analysis (2331202)

Day & Date: Friday, 16-May-2025   Max. Marks: 60
Time: 11:00 AM To 01:30 PM

Instructions: 1) All questions are compulsory.
         2) Figures to the right indicate full marks.

Q.1 A) Choose correct alternative.   **08**

1) _____ of the following is a vector data format.
   a) Shapefile   b) GeoTIFF
   c) GeoJSON   d) KML

2) _____ tool builds a new feature class from the intersecting features common in both feature classes.
   a) Union   b) Clip
   c) Merge   d) Intersect

3) _____ is a high-level computational language used for performing cartographic spatial analysis using raster data.
   a) Surface   b) Map algebra
   c) Interpolation   d) None of these

4) _____ functions process cell data depending on the values of neighboring cells.
   a) local   b) focal
   c) zonal   d) global

5) The first uses of map-based analysis in Dr. John Snow of London in _____.
   a) 1854   b) 1754
   c) 1984   d) 1870

6) _____ is the process by which we turn raw data into useful information.
   a) Geo Analysis   b) Spatial Analysis
   c) Vertical Analysis   d) Both a & b

7) In the world of GIS, another term for the property of connectivity is _____.
   a) topology   b) proximity
   c) Boolean   d) fuzzy

8) The _____ operation is used to determine whether a point lies inside or outside a polygon.
   a) polygon-in-polygon
   b) point-in-polygon
   c) line-in-polygon
   d) intersection

B) Write True/False.   **04**
   1) Interpolation is made possible by a principle called Spatial Autocorrelation.
   2) SDI stands for spatial data international.
   3) The distance of each point to its nearest neighbor is measured and the average nearest neighbor distance for all points is determined.
   4) Fastest path is to determine the optimal path after visiting a specified set of links in the network.

Q.2 Answer the following. (Any Six)   **12**
   a) WGS
   b) Buffer
   c) Zonal analysis
   d) Aspect analysis
   e) Raster data structure
   f) NDVI
   g) Georeferencing
   h) Vector based Classification

Q.3 Answer the following. (Any Three)   **12**
   a) Explain point pattern analysis.
   b) Describe Carto-sat DEM.
   c) Discuss line in polygon.
   d) Explain kriging method.

Q.4 Answer the following. (Any Two)   **12**
   a) Discuss the role of GIS spatial analysis tool.
   b) Explain the principles of C and Cl matrix.
   c) Describe the surface analysis.

Q.5 Answer the following. (Any Two)   **12**
   a) Discuss the advantages and disadvantages of Spatial data engine.
   b) Explain the concept of geo server.
   c) Describe 3D analysis.

Seat No.

M.Sc. (Geoinformatics) (Semester - II) (New) (NEP CBCS) Examination: March/April - 2025
Introduction to Cartography (2331209)

Day & Date: Tuesday, 20-May-2025　　　　　　　　Max. Marks: 60
Time: 11:00 AM To 01:30 PM

Instructions: 1) All questions are compulsory.
　　　　　　　　2) Figures to the right indicate full marks.

Q.1　A)　Choose correct alternatives (MCQ)　　　　　　　08

1) The choice of scale affects: _____
　　a)　Map details　　　　b)　Map coverage area
　　c)　Map accuracy　　　d)　All of the above

2) The shape of the Earth is best described as: _____
　　a)　A perfect sphere　　b)　A geoid
　　c)　A prolate spheroid　d)　A flat plane

3) Geodesy is the study of: _____
　　a)　Climate and weather
　　b)　The Earth's shape, size, and gravity field
　　c)　Historical maps
　　d)　Ocean currents

4) Which of the following is a property of a map projection?
　　a)　Scale　　　　　　b)　Projection method
　　c)　Area preservation　d)　All of the above

5) Geographical coordinates use:_____
　　a)　Latitude and longitude　b)　UTM zones
　　c)　Cartesian coordinates　d)　Grid references

6) Grid systems divide maps into: _____
　　a)　Horizontal and vertical coordinates
　　b)　Latitude and longitude lines
　　c)　Color-coded zones
　　d)　Time zones

7) Which coordinate system is widely used for GPS applications?
　　a)　Cartesian coordinate system
　　b)　UTM (Universal Transverse Mercator)
　　c)　Local grid systems
　　d)　Geocentric system

8) What is the equivalence of one degree of longitude?
    a) 4 minutes   b) 1 hour
    c) 15 minutes   d) 30 minutes

B) Fill in the blanks OR write true/false   **04**
    1) Geographical coordinates are measured in kilometres.
      a) True   b) False
    2) Map projections are used to represent the curved surface of the Earth on a flat surface.
      a) True   b) False
    3) A _____ focuses on specific topics, such as population density or climate.
    4) Cartography is the art and science of _____

Q.2 Answer the following (Any Six)   **12**
    a) Define scale
    b) Define geoid
    c) Define coordinate system
    d) What is a geodetic datum?
    e) What is WGS?
    f) Historical use of cartography
    g) Define map scale
    h) What is map projection?

Q.3 Answer the following. (Any Three)   **12**
    a) Explain the concept of map projection.
    b) What are the main components of the Earth's geodetic system?
    c) What is a topographic survey?
    d) What are the different types of map scales?

Q.4 Answer the following. (Any Two)   **12**
    a) Importance of Sign and Symbols
    b) History of cartography
    c) Classification of map projection

Q.5 Answer the following. (Any Two)   **12**
    a) Detailed note on scale
    b) Single Standard Projection
    c) Cultural maps

Seat No.

Set P

M.Sc. (Geoinformatics) (Semester - III) (New) (NEP CBCS) Examination: March/April - 2025
Advanced Techniques in Remote Sensing (2331301)

Day & Date: Thursday, 15-May-2025   Max. Marks: 60
Time: 11:00 AM To 01:30 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 A) Select the correct alternative. 08

1) _____ is the satellite image available free of cost on internet.
a) Landsat - 8
b) LISS IV
c) Quick bird
d) All of the above

2) Multiplebeam _____ provides two kinds of data: Bathymetric and acoustic back scatter
a) SONAR
b) LIDAR
c) RADAR
d) none of these

3) The _____ describes the distribution of the pixel values of a digital image.
a) Surface features
b) Scattergram
c) Mean Values
d) Histogram

4) From space borne platforms, the _____ mainly used to measure the ocean surface wind speed and direction.
a) Scatterometer
b) radiometer
c) thermometer
d) micrometer

5) _____ is defined as the angle between the radar beam and a perpendicular to the surface.
a) look angle
b) flight length
c) incidence angle
d) focal length

6) The infrared band (0.7-3) is useful in studying _____.
a) soil
b) settlement
c) water body
d) vegetation

7) The term "black body" was introduced by _____ in 1860.
a) Gustav Kirchhoff
b) Stefan-Boltzmann
c) Planck
d) None of these

8) _____ uses an electromagnetic carrier frequency.
a) Satellite
b) Sensor
c) RADAR
d) energy recorder

B) Write True/False. 04
1) Active remote sensing techniques have their own source of energy.
2) S P Langley invented the thermometer that was able to measure temperature variation.
3) NDWI is useful for measuring soil nutrient.
4) Microwave sensor can be grouped into major groups like active and passive.

Q.2 Answer the following. (Any Six) 12
a) Define look angle
b) Define incidence angle
c) Nadir point
d) Focal length
e) Define parallex
f) Define microwave remote sensing
g) Passive microwave sensor
h) Altimeter

Q.3 Answer the following question (Any Three) 12
a) SONAR
b) Explain in detail Scatterometer.
c) Explain in detail wavelength / frequency of RADAR.
d) Polarization

Q.4 Answer the following question (Any Two) 12
a) RADAR operating principles
b) Describe affected elements of terrain properties of RADAR returns.
c) Describe Slant range and Azimuth resolution

Q.5 Answer the following question (Any Two) 12
a) Layover and foreshortening
b) Explain planks radiation law.
c) Fundamental properties of electromagnetic radiation.

Seat No.		Set	P

M.Sc. (Geoinformatics) (Semester - III) (New) (NEP CBCS) Examination: March/April - 2025
Advanced Techniques In GIS (2331302)

Day & Date: Saturday, 17-May-2025   Max. Marks: 60
Time: 11:00 AM To 01:30 PM

Instructions: 1) All questions are compulsory.
              2) Figures to the right indicate full marks.

Q.1 A) Choose correct alternative.   **08**

1) In the AHP (Analytical Hierarchy Process), what is the scale range used for pairwise comparison?
    a) 1 to 10   b) 1 to 5
    c) 1 to 9   d) 0 to 1

2) What is the main objective of Multi-Criteria Decision Making (MCDM)?
    a) To store geospatial data
    b) To evaluate conflicting criteria to make decisions
    c) To visualize spatial data
    d) To conduct demographic analysis

3) Which of the following is NOT an example of an attribute used in Multi-Criteria Analysis?
    a) Slope   b) Soil type
    c) Distance from road   d) Population density

4) In MCA, what does MODM stand for?
    a) Multi-Option Decision Making
    b) Multi-Objective Decision Making
    c) Multi-Operational Data Model
    d) Multi-Oriented Decision Model

5) Which method is used to test the robustness of a decision model in MCA?
    a) Fuzzy logic   b) Sensitivity analysis
    c) Utility function approach   d) Linear transformation

6) Which of the following methods is commonly used to derive DEM data?
    a) Stereoscopic aerial photographs
    b) Climate models
    c) Satellite imagery
    d) Road surveys

7) What does a hillshade map simulate?
   a) Soil quality
   b) How terrain interacts with sunlight
   c) Rainfall distribution
   d) Water drainage paths

8) What is a Digital Elevation Model (DEM)?
   a) A model representing geological data
   b) A digital representation of the continuous variation of relief over space
   c) A 2D representation of population density
   d) A model of transportation networks

B) Fill in the blanks: 04
   1) In the Analytical Hierarchy Process (AHP), comparisons are made____at a time.
   2) In MCA, the ____ refers to the importance assigned to a criterion relative to others.
   3) A ____ map in GIS shows the areas that meet the criteria set in an MCA analysis.
   4) The two broad classes of Multi-Criteria Decision Making (MCDM) are ____ and_____.

Q.2 Answer the following (Any Six). 12
   a) Describe the process of Analytical Hierarchy Process. (AHP)
   b) What are the key differences between MADM (Multi-Attribute Decision Making) and MODM (Multi-Objective Decision Making)?
   c) Discuss the role of criteria weightage in Multi-Criteria Decision Making.
   d) Describe the process of Rating method.
   e) Explain the concept of a Digital Elevation Model (DEM) and its importance in spatial analysis.
   f) What is a Triangulated Irregular Network (TIN), and how does it differ from DEM?
   g) Describe the process of Ranking method

Q.3 Answer the following (Any Three). 12
   a) What are the methods used for criteria standardization in MCDA? Discuss their advantages and limitations.
   b) Discuss the applications of DEM in civil engineering and military projects.
   c) How does GIS-based Multi-Criteria Decision Analysis (MCDA) work? Explain with an example.
   d) What is the role of weighting in MCDA? Discuss various methods for assigning weights to criteria.

Q.4 Answer the following (Any Two). 12
    a) How does GIS-based MCA help resolve conflicting objectives in decision-making?
    b) What are the major challenges and limitations of MCDA in decision-making processes?
    c) Explain the difference between line of sight and viewshed analysis in spatial analysis.

Q.5 Answer the following (Any Two). 12
    a) Describe the applications of MCDA in real-world scenarios. Provide examples from fields like urban planning, environmental management, and disaster management.
    b) Discuss the challenges and limitations of using DEM for large-scale projects.
    c) What are hillshades, and how do they help in terrain visualization.

Seat No.	

M.Sc. (Geoinformatics) (Semester - III) (New) (NEP CBCS) Examination: March/April - 2025
Web GIS & Mobile GIS (2331306)

Day & Date: Friday, 19-May-2025   Max. Marks: 60
Time: 11:00 AM To 01:30 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 A) Choose correct alternative.   **08**

1) What is the purpose of a geocoding service in Internet GIS?
   a) To visualize 3D models
   b) To analyze spatial data
   c) To convert geographical coordinates to addresses
   d) To store geographic datasets

2) Which of the following is NOT a web mapping service?
   a) QGIS   b) ArcGIS Online
   c) Mapbox   d) Google Maps

3) What does the "HTTPS" protocol indicate?
   a) The website is faster
   b) The website is a social media platform
   c) The website is a search engine
   d) The website is more secure

4) Which feature allows users to zoom in and out on a web map?
   a) Layer control   b) Pan
   c) Scale control   d) Bookmark

5) Which web browser is developed by Google?
   a) Edge   b) Opera
   c) Chrome   d) both a and c

6) What is a primary feature of web-based GIS applications?
   a) Offline data processing
   b) Real-time data visualization
   c) High computational power
   d) Exclusive use on desktop computers

7) GIS tools allow the user to perform which of the following task?
   a) Create searches   b) Store data
   c) Edit data   d) All the above

8) GIS represents X-coordinate in _____ direction.
a) Horizontal   b) Vertical
c) Tangentially   d) None of the above

B) Fill in the blanks OR Write True/False.   **04**
1) _____ this format store image data without losing any data.
2) Python language is mainly used in GIS software.
     a) True   b) False
3) Cookies are used to store user preferences and session data.
     a) True   b) False
4) Email was invented after the World Wide Web
     a) True   b) False

Q.2 Answer the following. (Any Six)   **12**
a) PHP
b) Web browser
c) Data Ware Housing
d) TCP
e) Data Communication
f) Define Internet and examples of the Internet.
g) Distributed GIS
h) Define Metadata

Q.3 Answer the following. (Any Three)   **12**
a) Note on concept of data mining.
b) Write the applications of Internet GIS in Urban Planning.
c) Real time applications in android/mobile GIS with examples.
d) Write in detail types of Network Communication Models.

Q.4 Answer the following. (Any Two)   **12**
a) Write the applications of data ware housing.
b) Advantages of the Internet with suitable examples.
c) Define Protocol and explain the types of protocols.

Q.5 Answer the following. (Any Two)   **12**
a) What is computer network? Explain in detail Network topologies.
b) Explain neat labelled diagram of architecture of Mobile GIS.
c) Explain in detail WLS.

Seat No.

M.Sc. (Geoinformatics) (Semester - III) (Old) (CBCS) Examination: March/April - 2025
Advance Techniques in Remote Sensing (MSC017301)

Day & Date: Thursday, 15-May-2025   Max. Marks: 80
Time: 11:00 AM To 02:00 PM

Instructions: 1) Question 1& 2 is compulsory.
2) Attempt any three questions from Q. No. 3 to Q. No. 7.
3) Draw neat labeled diagrams wherever necessary.

Q.1 A) Fill in the blank with appropriate choice: **10**

1) _____ is/are image processing functions.
a) Pre- processing   b) image transformation
c) classification   d) all of the above

2) Synthetic Aperture Radar is an example of _____ form of remote sensing.
a) active   b) passive
c) both a & b   d) None of the above

3) Coherence of two electromagnetic waves takes place if their phase difference is _____.
a) constant in time   b) constant in space
c) constant in time & space d) none of these

4) _____ one of the following helps to identify the objects on the earth surface.
a) Atmospheric window   b) radiometric error
c) geometric error   d) signature

5) Remote sensing techniques makes use of the properties of _____ emitted, reflected by the sensed objects.
a) Electric waves   b) sound waves
c) electromagnetic waves   d) wind waves

6) _____ of the following parameters is considered to determine the reflectance of a vegetation canopy.
a) Azimuth angle   b) look angle
c) solar zenith angle   d) all of these

7) The actual range of a target from the radar is known as _____.
a) slant range   b) layover
c) azimuth range   d) speckle

8) The first SPOT satellite was launched by _____ in 1986.
   a) USA   b) IRS
   c) France   d) USSR

9) The _____ is a physical device that separates light into various colour components.
   a) Prism   b) image
   c) toposheet   d) Arc GIS

10) _____ is widely used in printing and photographic industries for increasing the local contrast and sharpening the images.
   a) Supervised   b) unsupervised
   c) Image sharpening   d) image histogram

B) Fill in the blanks.   **06**
   1) In World War I, _____ could detect men at 120 m and aircraft.
   2) All bodies at temperatures above absolute 0°emit EMR at different wavelength is known as _____.
   3) TIROS stands for _____.
   4) LIDAR stands for _____.
   5) _____ to _____ km is the Swath width of Radarsat 1.
   6) _____ is defined as the angle between the vertical of the antenna to the ground transmitted ray at the point of incidence.

Q.2 Write notes on.   **16**
   a) Japanese Earth Resources Satellite 1
   b) Push-broom linear Arrey
   c) Incidence angle and depression angle
   d) Planks function

Q.3 Answer the following question   **16**
   a) Numerical methods of Image fusion
   b) Wein's Displacement Law

Q.4 Explain in details.   **16**
   a) Speckle and relief Displacement
   b) Moderate Resolution Imaging Spectroradiomete

Q.5 Describe the following.   **16**
   a) IRS series
   b) Influenced factors of emissivity

Q.6 Write note on   **16**
   a) Charged Couple Device and Forward Looking IR
   b) Elements of SAR image

Q.7 **Answer the following question** **16**
    a) Principal component Analysis
    b) SEASAT and System Pour l'Observation de la Terre

Seat No.

Set P

M.Sc. (Geoinformatics) (Semester - IV) (New) (NEP CBCS) Examination: March/April - 2025
Natural Resource Management (2331401)

Day & Date: Wednesday, 14-May-2025   Max. Marks: 60
Time: 03:00 PM To 05:30 PM

Instructions: 1) All questions are compulsory.
                2) Figures to the right indicate full marks.

Q.1 A) Choose correct alternative. (MCQ)   08

1) Which satellite is used by ISRO to monitor chlorophyll concentrations in oceans?
a) Cartosat   b) Oceansat-2
c) IRS-P6   d) INSAT-3D

2) Which organization provides Potential Fishing Zone (PFZ) advisories in India?
a) ISRO   b) INCOIS
c) MoES   d) All of the above

3) What is bathymetry?
a) Study of ocean currents
b) Measurement of ocean depths
c) Analysis of sea surface temperature
d) Mapping of coastal vegetation

4) Which soil type is characterized by high organic matter content and is found in wetlands?
a) Peaty soil   b) Alluvial soil
c) Black soil   d) Red soil

5) Which satellite provides sea surface temperature data for PFZ identification?
a) NOAA satellites   b) Oceansat-2
c) Cartosat   d) IRS-P6

6) Which of the following is a characteristic of sandy soil?
a) High water retention   b) Low permeability
c) Coarse texture   d) High nutrient content

7) Which soil horizon contains the most organic matter?
a) O horizon   b) A horizon
c) B horizon   d) C horizon

8) What is the particle size (in mm) of gravel?
   a) >2.0　　　　　　　　　　　b) 0.2-2.0
   c) 0.02-0.2　　　　　　　　　d) <0.002

B) **Fill in the blanks or Write true/false** 04
   a) Waterlogged areas generally have low infiltration rates due to saturated soil. (True/False)
   b) Physiographic soil mapping involves analyzing landforms to understand soil distribution patterns. (True/False)
   c) Soil moisture plays a vital role in determining ____ schedules and crop health.
   d) Forest management aims to ensure the ____ use and conservation of forest resources.

Q.2 **Answer the following. (Any Six)** 12
   a) Define salinity mapping in the context of water resources.
   b) What do you mean by ocean colour mapping?
   c) Give different types of soil according to soil texture
   d) What is watershed management?
   e) What is the significance of physiographic soil mapping?
   f) Define bathymetry and its importance in marine studies.
   g) Define Evaporation and condensation.
   h) List two indicators of wildlife habitat suitability assessable using remote sensing.

Q.3 **Answer the following. (Any Three)** 12
   a) Explain the role of remote sensing in detecting water pollution.
   b) What is bathymetry and how is it mapped using GIS?
   c) List the major soil types and describe how RS & GIS help in their identification.
   d) How can remote sensing techniques be used to estimate forest biomass and tree volume density?
   e) List two indicators of wildlife habitat suitability assessable using

Q.4 **Answer the following questions (Any Two)** 12
   a) How are marine resources monitored using satellite-based SST and ocean colour mapping?
   b) Illustrate the use of RS & GIS in physiographic soil mapping and soil moisture estimation.
   c) Describe the methodology for forest classification and mapping using remote sensing.

Q.5 **Answer the following questions (Any Two)** 12
   a) Write in detail about classification of forest.
   b) Write in brief Soil moisture mapping
   c) Explain ocean colour mapping its technique and uses

Seat No.	

M.Sc. (Geoinformatics) (Semester - IV) (New) (NEP CBCS) Examination: March/April - 2025
Application of RS and GIS in Disaster Management (2331402)

Day & Date: Friday, 16-May-2025 Max. Marks: 60
Time: 03:00 PM To 05:30 PM

Instructions: 1) All questions are compulsory
2) Figures to the right indicate full marks.

Q.1 A) Choose the correct alternative. 08

1) Which of the following is NOT a primary use of GIS in disaster management?
a) Hazard zonation mapping
b) Early warning systems
c) On-site medical treatment
d) Damage assessment

2) Remote sensing is particularly useful for monitoring which type of disaster?
a) Earthquakes
b) Landslides
c) Industrial accidents
d) All of the above

3) The Normalized Difference Vegetation Index (NDVI) is most commonly used to assess:
a) Earthquake intensity   b) Drought conditions
c) Volcanic activity   d) Flood water depth

4) Which satellite data would be most appropriate for monitoring volcanic ash clouds?
a) Thermal infrared   b) Microwave
c) Gravimetric   d) Sonar

5) GIS-based flood modeling typically incorporates all EXCEPT:
a) Topographic data   b) Land use patterns
c) Rainfall intensity   d) Soil mineral composition

6) Which of the following is NOT a type of disaster?
a) Earthquake   b) Volcano
c) Migration   d) Flood

7) The vegetation index is used to assess:
a) Urbanization   b) Deforestation
c) Drought conditions   d) Mining impact

8) GIS-based parameters are essential in flood analysis because:
   a) They predict rain
   b) They map population
   c) They integrate land use and topography
   d) They measure temperature

B) Fill in the blanks. 04
   1) The process of dividing an area into zones of similar hazard potential is called _____
   2) _____ satellites are particularly useful for disaster monitoring due to their frequent revisit capability.
   3) The _____ Index is commonly used in remote sensing to monitor drought conditions.
   4) GIS helps in identifying _____ zones for proactive disaster management.

Q.2 Answer the following question (Any Six) 12
   a) Write a short note on the causes and effects of landslides.
   b) Explain the application of GIS in cyclone damage assessment.
   c) Describe the impact of volcanic hazards with an example.
   d) Briefly explain coastal zone management strategies.
   e) How is GIS used in delimiting drought-prone areas?
   f) Explain how GIS can be used for earthquake vulnerability assessment.
   g) How can GIS assist in evacuation planning for cyclone-prone areas?

Q.3 Answer the following question (Any Three) 12
   a) Discuss the application of remote sensing and GIS in landslide hazard zonation, including the parameters used and methods of analysis.
   b) Explain how space-time integration in GIS helps in flood forecasting and management. Provide examples of relevant data layers.
   c) Discuss the different types of drought and factors influencing them.
   d) Write a comparative analysis of earthquake zones in India and the world.

Q.4 Answer the following question (Any Two) 12
   a) Describe the methodology of flood risk assessment using GIS.
   b) Discuss this statement with reference to recent technological advancements in remote sensing and spatial analysis.
   c) Write a detailed note on how GIS case studies have contributed to our understanding of disaster patterns and improved management strategies, with reference to at least three different types of disasters.

Q.5 Answer the following question (Any Two) 12
   a) Discuss in detail the application of Remote Sensing and GIS in managing drought and desertification.
   b) Discuss the implications of global warming and sea level rise as atmospheric disasters, and the role of GIS in their mitigation.
   c) Critically analyze the role of geospatial technologies in all phases of disaster management (preparedness, response, recovery, and mitigation) with appropriate case studies.

Seat No.

M.Sc. (Geoinformatics) (Semester - IV) (New) (NEP CBCS) Examination: March/April - 2025
Application in Hydrology and Agriculture (2331407)

Day & Date: Tuesday, 20-May-2025   Max. Marks: 60
Time: 03:00 PM To 05:30 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 A) Select the correct alternative.   08

1) Soil _____ is used in determining crop yield potential.
a) Structure   b) Texture
c) Moisture   d) Nutrient

2) The monitoring of _____ aquifers is important in studying the problem of seawater intrusion.
a) Estuaries   b) Coastal
c) River   d) All of the above

3) SST means _____.
a) Sea shallow temperature
b) Sea surface temperature
c) Shallow surface temperature
d) None of these

4) _____ fine spatial resolution in IRS data.
a) LISS-I   b) LISS-II
c) LISS-III   d) LISS-IV

5) How much geographical area covered of Forest by India?
a) 40%   b) 33%
c) 21%   d) 10%

6) The oceans cover _____ of the surface of the earth.
a) 51%   b) 61%
c) 71%   d) 81%

7) _____ mapping helps fishermen optimize their fishing efforts, reduce fuel consumption, and promote sustainable fishing practices.
a) PFZ   b) SST
c) MODIS   d) Costal bathymetry

8) Tides in the sea are caused by _____.
   a) Sun
   b) The moon
   c) The Sun and Moon
   d) None of these

B) State whether true or false. **04**
   1) Genetic diversity of biodiversity represents the variety of genes within a species?
   2) A watershed is an area of land where all the water that is under it or drains off it collects into the same place.
   3) Microwave also reflects the internal structure of leaves and stems, which changes with crop age or health.
   4) Soil Mapping is the process of creating detailed maps that provide information about soil properties and characteristics across a landscape.

Q.2 Answer the following (Any Six) **12**
   a) Define Watershed
   b) Define biodiversity
   c) Drainage density
   d) Define Ecology
   e) Define Forest
   f) NDVI
   g) What is forest inventory?
   h) What is soil?

Q.3 Answer the following. (Any Three) **12**
   a) Explain hydrological cycle
   b) Explain Sentinel 2A
   c) LISS III
   d) Aerial characters of watershed

Q.4 Answer the following. (Any Two) **12**
   a) Application of Remote sensing and GIS Wetland mapping.
   b) Biodiversity hotspot mapping.
   c) Explain in detail Water resources.

Q.5 Answer the following. (Any Two) **12**
   a) Soil profile and soil nutrients.
   b) Explain in detail ocean ecosystem.
   c) Land scape analysis.

Seat No.

Set P

M.Sc. (Geoinformatics) (Semester - IV) (New/Old) (CBCS) Examination: March/April - 2025
Geoinformatics Approach for Natural Resource Management (MSC017401)

Day & Date: Wednesday, 14-May-2025　　　　　　　　Max. Marks: 80
Time: 03:00 PM To 06:00 PM

Instructions: 1) Q.Nos.1. and 2. Are compulsory.
　　　　　　　　2) Attempt any three questions from Q.No.3 to Q.No.7
　　　　　　　　3) Figures to the right indicate full marks.

Q.1　A)　Choose the correct alternative.　　　　　　　　　　10

1) Geostationary satellites are ideal for _____
   a) Land mapping　　　　b) Meteorology
   c) Communication　　　　d) None of these

2) IRNSS stands for_____
   a) Indian Research Navigation Space System
   b) Indian Regional Negative Space System
   c) Indian Regional Navigation Satellite System
   d) None of these

3) The SPOT satellites are sun synchronous satellite orbits at height
   a) 832 km　　　　b) 900 km
   c) 850 km　　　　d) 890 km

4) Temporal resolution of IRS-LISS - IIP6 satellite is _____
   a) 20 day　　　　b) 24 day
   c) 27 day　　　　d) 35 day

5) _____ is a process of using points with known values to estimate values at other points.
   a) Interpolation　　　　b) Distribution
   c) Fractual　　　　d) None of these

6) _____ approximates the surface with a series of non-overlapping triangles.
   a) DEM　　　　b) TIN
   c) DTM　　　　d) None of theses

7) Which of the following is user friendly software for image processing?
   a) ERADAS IMAGINE　　　　b) ILWIS
   c) WEKA　　　　d) GEOMEDIA

8) Spatial resolution of LISS IV _____
   a) 0.5 m   b) 23.5 m
   c) 5.8 m   d) 72.5 m

9) Which of the following is responsible for desertification?
   a) Deforestation   b) Mining
   c) Overgrazing   d) All of the above

10) _____ is following satellite series concerned Japan.
   a) IRS   b) Spot
   c) landsat   d) JERS

B) Write True/False.   **06**
1) A non-renewable resource is a finite resource.
2) Natural gas is a renewable energy.
3) Forest management has various scopes.
4) Mining is an important factor behind deforestation.
5) Resource is a source.
6) The relation of reservation is directly connected with the demand of resources.

Q.2 Answer the following.   **16**
a) Surface temperature mapping
b) Drainage density and drainage perimeter
c) Timber harvesting planning
d) Soil structure

Q.3 Answer the following.   **16**
a) Channel geomorphology
b) LULC criteria

Q.4 Answer the following.   **16**
a) Hortons law
b) Circular and dendritic Drainage pattern

Q.5 Answer the following.   **16**
a) SST mapping
b) Water pollution detection

Q.6 Answer the following.   **16**
a) Explain in detail soil types.
b) Biological properties of Soil

Q.7 Answer the following.   **16**
a) Hydrological cycle
b) Forest fire detection

Seat No.

M.Sc. (Geoinformatics) (Semester - IV) (Old) (CBCS) Examination: March/April - 2025
Application of RS and GIS in Disaster Management (MSC017402)

Day & Date: Friday, 16-May-2025   Max. Marks: 80
Time: 03:00 PM To 06:00 PM

Instructions: 1) Q. Nos. 1 and 2 are compulsory.
2) Attempt any three questions from Q. No. 3 to Q. No. 7.
3) Figures to the right indicate full marks.

Q.1 A) Fill in the blanks by Choosing correct alternatives given below.   10

1) Typically, the best course of action to-take during a medical emergency is to _____.
   a) Begin first aid immediately
   b) Activate the emergency plan for reporting injuries
   c) Notify the person's family about the situation
   d) Both answers a and b

2) Avalanches take place in _____.
   a) High altitudes   b) Low latitudes
   c) Ground level   d) beneath the ocean

3) Disasters can be broadly termed as _____ types.
   a) 2   b) 4
   c) 5   d) 3

4) Do not build houses on _____.
   a) Soft soils   b) Hard soils
   c) Rocky soils   d) Fertile soils

5) The Tropical Cyclones of hurricane force in the western North Pacific are known as _____.
   a) Thunderstorm   b) Typhoons
   c) Tornadoes   d) All the above

6) What type of disaster is most prominent in India?
   a) Flood   b) Draught
   c) Cyclone   d) Earthquake

7) Which of the following disasters can be triggered by an earthquake?
   a) Tsunami   b) Avalanches
   c) A landslide   d) All of the above

8) _____ only confirmed active volcano in South Asia.
   a) Sant Merry's Island   b) Lakshadweep islands
   c) Sindhudurg Island   d) Barren Island

9) Exposed to a hazardous chemical, the affected area should be flushed for _____ minutes.
   a) 5 to 10   b) 10 to 15
   c) 15 to 20   d) 20 to 25

10) People live in dangerous areas for what reasons?
   a) For the views   b) Because of cheap land
   c) Because the land is fertile   d) For all of these reasons

B) Fill in the blank OR True/False. 06
1) The Bhopal gas tragedy is an example of: Industrial disasters. (True/false)
2) Disaster management is important to avoid serious circumstances. (True/False)
3) India's total cyclone-prone area is _____.
4) Tropical cyclone, drought, wildfire is meteorological hazard. (True/ False)
5) Cyclones in the Caribbean islands are known as typhoon. (True/ False)
6) The most essential item that the disaster-stricken populations must be provided with _____.

Q.2 Answer the following. 16
a) Short note on global warming.
b) Soil erosion management
c) Write a note on soil erosion.
d) Effects of chemical disaster

Q.3 Answer the following. 16
a) Explain effect of cyclone on land and sea.
b) Explain different symptoms of drought.

Q.4 Answer the following. 16
a) Write a note on nuclear disaster.
b) Sea level rise and related problems.

Q.5 Answer the following. 16
a) Land slide prone zones of India.
b) Earth quake precautions by GIS.

Q.6 Answer the following. 16
a) Explain in brief marine disaster.
b) Explain earthquake in brief and zones of world.

Q.7 Answer the following. 16
a) Ozone layer depletion
b) Volcanic disaster and its causes and effect

Seat No.		Set	P

M.Sc. (Geoinformatics) (Semester - IV) (New/Old) (CBCS) Examination: March/April - 2025
Applications of Global Positioning System (MSC017403)

Day & Date: Tuesday, 20-May-2025   Max. Marks: 80
Time: 03:00 PM To 06:00 PM

Instructions: 1) Q. Nos. 1 and 2 are compulsory
2) Attempt any three questions from Q. No. 3 to Q. No. 7.
3) Figures to the right indicate full marks.

Q.1 A) Choose correct alternatives (MCQ).   10

1) What is a disadvantage of kinematic positioning?
   a) It is not suitable for dynamic environments
   b) It requires a long occupation time
   c) It needs continuous satellite visibility
   d) It cannot provide real-time data

2) Which factor primarily affects data transfer in GPS surveying?
   a) Distance from base station
   b) Type of receiver used
   c) Occupation time at a point
   d) All of the above

3) What improves the accuracy of measurements in static GPS surveys?
   a) Signal-to-noise ratio
   b) Long occupation time
   c) Proximity to base station
   d) All of the above

4) Which of the following is a primary use of GPS in vehicle tracking?
   a) Calculating weather data
   b) Real-time location monitoring
   c) Measuring traffic density
   d) Designing Road networks.

5) What is LAAS mainly used for?
   a) General aviation
   b) Long-distance marine navigation
   c) Local high-precision applications
   d) Disaster response

6) Which application of GPS is essential for military use?
   a) Precision farming
   b) Vehicle tracking
   c) Target tracking and navigation
   d) All of the above

7) What is a disadvantage of kinematic positioning?
   a) Requires a long setup time
   b) Vulnerable to signal loss in motion
   c) Cannot be used in real-time
   d) Lower accuracy than static positioning

8) What is the main disadvantage of point positioning?
   a) High cost of equipment
   b) Limited coverage area
   c) Low accuracy
   d) Requires multiple receivers

9) What was the first satellite navigation system called?
   a) NAVSTAR   b) Transit
   c) Galileo   d) Compass

10) What is included in the user segment of GPS?
    a) Satellites   b) Control stations
    c) GPS receivers   d) Ground antennas

B)   Fill in the blanks OR write true/false   **06**
   1) GPS is used for _____ such as route planning and turn-by-turn directions.
   2) _____ systems use GPS to monitor the real-time location of moving vehicles.
   3) GPS receivers calculate their position based on signals from at least _____ satellites.
   4) Kinematic GPS surveying is ideal for mapping moving objects like vehicles or ships.
      a) True   b) False
   5) GPS receivers need signals from only two satellites to determine their position.
      a) True   b) False
   6) Data transfer and analysis are essential steps in GPS-based surveying.
      a) True   b) False

Q.2   Answer the following.   **16**
   a) Beidou & GLONASS
   b) Note on compass
   c) Describe Geo positioning.
   d) GLONASS & MTSAT

Q.3   **Answer the following.**   **16**
  a) What are the differences between static and kinematic GPS positioning?
  b) Describe Stop and Go technique

Q.4   **Answer the following.**   **16**
  a) What are the limitations of GPS in urban and forested environments?
  b) How does the reoccupation technique enhance the reliability of GPS measurements?

Q.5   **Answer the following.**   **16**
  a) What are the critical factors in data transfer and analysis in GPS surveying?
  b) Describe rapid static positioning system

Q.6   **Answer the following.**   **16**
  a) What is the purpose of the reoccupation technique in GPS surveying?
  b) How does the GPS system maintain precise time synchronization?

Q.7   **Answer the following.**   **16**
  a) How does GPS contribute to military applications, vehicle tracking, and mobile computing?
  b) Why is the signal-to-noise ratio important in GPS measurements?